ICAR ORGANIZATION AND HISTORY

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ILLINOIS INSTITUTE OF TECHNOLOGY

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THE UNIVERSITY OF CHICAGO

NORTHWESTERN UNIVERSITY

NORTHERN ILLINOIS UNIVERSITY

A Brief History (1998)

- Most accelerator research done at Nat'l Labs
- Accelerator research feels the budgetary squeeze
- Belief held that universities should contribute
- Belief held that State of Illinois could help
  - FNAL brings in Federal $$ to state
  - FNAL enhances intellectual level – provides unique talent pool
  - A strong lab may/should attract new construction projects
  - Example of university-lab cooperation exists (EXCITE)

- Governor Ryan decides to invest in the state's universities

F.A.Q.

- **WHAT IS ICAR?**

  ICAR is a consortium of five Illinois institutions of higher learning formed in 1998 to help ensure that Fermilab continues to be a vital force in the forefront of international high-energy physics and an engine for scientific, economic and educational progress in Illinois. ICAR is a mission-driven and cost-effective collaborative, putting the intellectual resources of these universities together to accomplish its research and public awareness goals.

- **WHAT DOES ICAR DO?**

  ICAR works to ensure that the best proposal for a new high-energy physics accelerator project will be developed for construction in Illinois, thereby maintaining Fermilab's preeminence in the search to unlock the secrets of the universe. Fermilab's current budget is saturated with on-going projects and does not alone allow for the R & D work necessary for new projects, hence the value of the collaboration with ICAR.

A Short Overview of ICAR

- Funded by the State of Illinois at $2.5M/year
  - Illinois Board of Higher Education (IBHE)
  - Entering 4th year of 5 year grant - (Sept. through Aug.)
  - Will apply for a 5 year renewal
  - $450k per university with $250k allocated to the PD
- Principal Investigators
  - IIT-ICAR: Dan Kaplan
  - NIU: Jerry Blazey
  - Chicago: Mark Oreglia
  - Northwestern: Mayda Velasko
  - UIUC: Debbie Errede

ICAR: Who's Done/Doing What

1. Illinois Institute of Technology E. Black, K. Cassel, M. Gosz, P. Hanlet, D. Kaplan, S. Pines, T. Roberts, G. Shvets, N. Solomey, L. Spentzouris, Y. Torun, C. White	Muon-cooling studies: absorber development, system engineering & integration, instrumentation, RF-cavity design, MICE; FNAL Booster studies, advanced accelerating structures, plasma acceleration, public outreach & awareness
2. Northern Illinois University/NICADD N. Barov, G. Blazey, C. Bohn, M. A. Cummings, A. Dychkant, D. Hedin, D. Kubik, D. Mihalcea, I. Sideris	Absorber development, MICE, LC detector R&D, high-brightness beams, electron-beam diagnostics, space-charge theory, plasma acceleration, public outreach & awareness
3. Northwestern University A. Apyan, H. Schellman, T. Lefevre, M. Szleper, M. Schmitt, M. Velasco	Neutrino-factory design, neutrino physics, proton-driver physics, linear-collider design & physics, gamma-gamma colliders, ground-motion studies,instrumentation
4. University of Chicago K. Hoffman, K.-J. Kim, M. Oreglia, Y. Wah, C.-X. Wang	Muon-cooling theory, intense-beam profile instrumentation, linear-collider accelerator & detector studies & education, Smith-Purcell Free-Electron-Laser R&D
5. University of Illinois at Urbana-Champaign D. Errede, M. Haney, K. Makino, K. Paul	Nonlinear beam optics, cooling theory, cooling- & storage-ring design, absorber development & instrumentation, MICE

CONCLUSIONS

- The ultimate goal of the Illinois Consortium for Accelerator Research (ICAR) is to help ensure the future of Fermi National Accelerator Laboratory (Fermilab) as the premier high-energy and accelerator physics laboratory in the world. This goal involves working to see that Fermilab is the site of the next major international large physics research project and can, therefore, continue to extend its important economic, educational and social benefits to the State of Illinois.